

REMARKS

In the Office Action, dated March 1, 2004, the Examiner rejected claims 1-5, 10-15, 20, 21, 23 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,360,196 (hereinafter "POZNANSKI") in view of U.S. Patent No. 6,604,101 (hereinafter "CHAN"). The Examiner also rejected claims 6-9, 16-19, 22 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over POZNANSKI and CHAN in view of U.S. Patent No. 6,006,221 (hereinafter "LIDDY"). Reconsideration of the outstanding rejections of pending claims 1-25 is respectfully requested in view of the following remarks.

REJECTIONS UNDER 35 U.S.C. §103

In paragraph 5, the Office Action rejects claims 1-5, 10-15, 20, 21, 23 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over POZNANSKI in view of CHAN. Applicants respectfully traverse.

Claim 1 recites, among other features, "receiving a search query that includes terms in a first language," "determining possible translations of the terms of the search query into a second language," "locating documents in the first language that contain references that match the terms of the search query and identify documents in the second language" and "disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query." Applicants submit that POZNANSKI and CHAN, either singly or in any reasonable combination, do not disclose this combination of features.

To make a proper rejection under 35 U.S.C. §103(a), the burden is on the Examiner to establish a *prima facie* case of obviousness. See M.P.E.P. § 2142. As one requirement for establishing a *prima facie* case of obviousness, the reference (or references when combined) cited by the Office Action must teach or suggest all of the claim features. *In re Vaeck*, 947 F.2d 488, U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 2143. Applicants respectfully submit that the references cited by the Office Action, either singly or in combination, do not teach or suggest each and every feature of claim 1.

For example, POZNANSKI and CHAN do not disclose “locating documents in the first language that contain references that match the terms of the search query and identify documents in the second language” and “disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query,” as recited in claim 1. The Examiner cites column 2, line 66 through column 3, line 15 and column 3, lines 29-50 of POZNANSKI as allegedly disclosing the “locating documents...” feature noted above. The Examiner further cites column 4, lines 15-29 of CHAN as allegedly disclosing the “disambiguating among the possible translations...” feature noted above. Applicants respectfully submit that these sections of POZNANSKI or CHAN, or any other sections of POZNANSKI or CHAN, do not disclose or suggest the above noted features.

At column 2, line 66 through column 3, line 15, POZNANSKI discloses:

According to a first aspect of the invention, there is provided a method of retrieving information from a plurality of documents in a target language using a

query in a source language, comprising converting the query into the target language using a multilingual resource, forming a query in the target language from the converted query, applying the query in the target language to an information management system, and converting at least part of the or each document in the target language identified by the information management system into the source language using the multilingual resource.

A multilingual resource is any system which is capable of converting a term (word or collocation) in the source language into one or more equivalent terms in the target language. An information management system is any system which is capable of identifying documents containing terms which are applied to the system as a query.

This section of POZNANSKI merely discloses conversion of a query in a source language into a target language, using the query converted into the target language to identify documents in the target language, and conversion of at least portions of the identified documents in the target language into the source language. This section of POZNANSKI, thus, discloses the location of documents in a second language that match terms of a search query converted from a first language into the second language. This section of POZNANSKI does not disclose, or even suggest, "locating documents *in the first language* that contain references that match the terms of the search query *and identify documents in the second language*" (emphasis added), as recited in claim 1.

At column 3, lines 29-50, POZNANSKI discloses:

The at least part of each document may comprise a title of the document. The at least part of each document may comprise an abstract or abridgement of the document. The at least part of each document may comprise a sentence containing terms which match the query in the target language.

According to a second aspect of the invention, there is provided an apparatus for retrieving information from a plurality of documents in a target language using a query in a source language, characterised by comprising a multilingual resource

for converting the query into the target language, means for forming a query in the target language from the converted query, and means for applying the query in the target language to an information management system, the multilingual resource being arranged to convert at least part of the or each document in the target language identified by the information management system into the source language.

The multilingual resource may be a bilingual glosser. The glosser may be arranged to identify and translate each term of the source language query. The glosser may be arranged to identify and translate terms which are collocations but not to translate the individual words of the collocations. For each term having more than one translation, the glosser may be arranged to supply more than one of the translations.

This section of POZNANSKI discloses a “bilingual glosser” that translates each term of a query in a source language into a target language and identifies documents in the target language that match the converted query. The identified documents may then be converted by an information management system back into the source language. This section, similar to the section discussed above, merely discloses the location of documents in a second language that match terms of a search query converted from a first language into the second language. This section of POZNANSKI does not disclose, or even suggest, “locating documents *in the first language* that contain references that match the terms of the search query *and identify documents in the second language*” (emphasis added), as recited in claim 1.

At column 4, lines 15-29, CHAN discloses:

An alternative embodiment of the present invention may also be used with a query prompter on the server so that in cases where the initial query entered by the user is insufficient for dialectal standardization, more input is solicited by the query prompter from the user to help standardize the words into acceptable and known words in the target language.

One advantage of the present invention is to provide a method and a system that dialectally standardizes the keyword or query input by the user to a more

commonly known and/or used term. Dialectal standardization is distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it.

This section of CHAN discloses the dialectal standardization of an input search query to a more commonly known or used term. Dialectal standardization of the search query may, thus, facilitate searching of a target language. The dialectal standardization of query terms to more commonly known used terms, as disclosed in this section of CHAN, does not disclose “locating documents *in the first language* that contain references that match the terms of the search query and *identify documents in the second language*” (emphasis added) and “disambiguating among the possible translations of the terms of the search query *using the identified documents to identify one of the possible translations as a likely translation of the search query*” (emphasis added), as recited in claim 1. The Office Action (pg. 3) cites CHAN as allegedly disclosing the “disambiguating...” feature, but does not address the fact that the “identified documents” recited in this feature are, as recited in the “locating documents...” feature noted above, documents in a second language that are identified from documents in a first language that contain references that match terms of a search query. Neither CHAN, or POZNANSKI, either singly or in any reasonable combination, disclose locating documents in a first language that match terms of a search query and *which further identify documents in a second language*, and use of those identified documents in the second language to identify one of the possible translations of a search query into the second language, as recited in claim 1. Since neither CHAN nor POZNANSKI suggests or discloses every feature of claim 1, the Office Action has failed to

establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 1 is, therefore, respectfully requested.

Claim 2-5 depend from claim 1 and, therefore, patentably distinguish over POZNANSKI and CHAN for at least the reasons set forth with respect to claim 1 above.

Independent claim 10 recites “means for obtaining a search query that includes terms in a first language,” “means for performing an initial translation of the terms of the search query into a second language, the initial translation identifying one or more possible translations of the terms of the search query,” “means for searching a database to locate documents in the first language that contain references that match the terms of the search query and identify documents in the second language,” and “means for disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a correct translation of the search query into the second language.” Similar to the arguments set forth above with respect to claim 1, POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, means for searching a database to locate documents in a first language that further identify documents in a second language, and use of those identified documents in the second language to identify one of the possible translations of a search query from the first language into the second language as a correct translation, as recited in claim 10. Withdrawal of the rejection of claim 10 is, therefore, respectfully requested.

Independent claim 11 recites “a database of documents in a plurality of languages,” “a search engine configured to: receive a search query that includes terms in a first language, and search the database to locate documents in the first language that contain references that match the terms of the search query and identify documents in a second language,” and “a query translation engine configured to: receive the search query, determine possible translations of the terms of the search query into the second language, and “disambiguate among the possible translations of the terms of the search query using the identified documents in the second language to identify one of the possible translations as a likely translation of the search query.” Similar to the arguments set forth above with respect to claim 1, POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, a search engine configured to search a database to locate documents in a first language that further identify documents in a second language, and a query translation engine that uses the identified documents in the second language to identify one of the possible translations of a search query from the first language into the second language as a likely translation, as recited in claim 11. Withdrawal of the rejection of claim 11 is, therefore, respectfully requested.

Claims 12-13 depend from claim 11 and, therefore, patentably distinguish over POZNANSKI and CHAN for at least the reasons set forth above with respect to claim 11.

Independent claim 14 recites a computer readable medium that comprises “instructions for obtaining a search query that includes terms in a first language,” “instructions for determining possible translations of the terms of the search query into a second language,” “instructions for finding documents in the first language that contain references that match the

terms of the search query and identify documents in the second language,” and “instructions for disambiguating among the possible translations of the terms of the search query using the identified documents to translate the search query into the second language.” Similar to the arguments set forth above with respect to claim 1, POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, a computer readable medium that comprises instructions for finding documents in a first language that further identify documents in a second language, and instructions that use the identified documents in the second language to translate the search query into the second language, as recited in claim 14. Withdrawal of the rejection of claim 14 is, therefore, respectfully requested.

Independent claim 15 recites “a search engine configured to: receive a search query that includes one or more terms in a first language, and locate documents in the first language that contain anchor text that matches the terms of the search query and identifies documents in a second language” and “a query translation engine configured to: receive the search query, initially translate the search query to determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the identified documents in the second language to identify one of the possible translations as a correct translation of the search query.” Similar to the arguments set forth above with respect to claim 1, POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, a search engine configured to locate documents in a first language that further identify documents in a second language, and a query translation engine configured to use the identified documents in the second language to identify one of the possible translations

as a correct translation of the search query, as recited in claim 15. Withdrawal of the rejection of claim 15 is, therefore, respectfully requested.

Independent claim 20 recites “receiving a search query that includes terms in a first language,” “determining possible translations of the terms of the search query into a second language,” “locating documents in the first language that contain references that match the terms of the search query and refer to other documents in the first language,” “identifying documents in the second language that contain references to the other documents,” and “disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query.” Applicants submit that POZNANSKI or CHAN, either singly or in combination, does not disclose, or even suggest, locating documents in a first language that further refer to other documents in the first language, identifying documents in the second language that contain references to the other documents, and using the identified documents to identify one of the possible translations as a likely translation of the search query, as recited in claim 20. Withdrawal of the rejection of claim 20 is, therefore, respectfully requested. Applicants note that the Office Action rejects claim 20 along with claims 1 and 14 when claim 20 recites substantially different features than both claims 1 and 14. The actual features of claim 20 *have not been addressed by the Office Action*. Applicants respectfully request that the Examiner point out where either POZNANSKI or CHAN disclose each and every feature of claim 20 in any subsequent Office Action.

Independent claim 21 recites “a search engine configured to: receive a search query that includes terms in a first language, locate documents in the first language that contain references

that match the terms of the search query and refer to other documents in the first language, and identify documents in a second language that contain references to the other documents” and “a query translation engine configured to: determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query.” POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, a search engine configured to locate documents in a first language that further refer to other documents in the first language and to identify documents in the second language that contain references to the other documents, and a query translation engine configured to use the identified documents to identify one of the possible translations as a likely translation of the search query, as recited in claim 21. Withdrawal of the rejection of claim 21 is, therefore, respectfully requested. Applicants note that the Office Action rejects claim 21 “on similar grounds corresponding to the arguments given for the rejected claim 11.” Claim 21, however, recites substantially different features, than those recited in claim 11, which have not been addressed in the Office Action. Applicants respectfully request that the Examiner point out where POZNANSKI or CHAN allegedly disclose the various features of claim 21 in any subsequent Office Action.

Independent claim 23 recites “receiving a search query that includes terms in a first language,” “determining possible translations of the terms of the search query into a second language,” “locating documents in the first language that match the terms of the search query,” “identifying documents in the second language that contain references to the first language

documents,” and “disambiguating among the possible translations of the terms of the search query using the second language documents.” POZNANSKI or CHAN, either singly or in combination, do not disclose, or even suggest, locating documents in a first language that match terms of a search query, identifying documents in a second language that contain references to the first language documents and using the second language documents to disambiguate among the possible translations of the terms of the search query, as recited in claim 23. Withdrawal of the rejection of claim 23 is, therefore, respectfully requested. Applicants note that the Office Action rejects claim 23 along with claims 10 and 15, when claim 23 recites substantially different features than both claims 10 and 15. These different features have not been addressed by the Examiner in the Office Action. Applicants respectfully request that the Examiner point out where POZNANSKI or CHAN allegedly disclose the various features of claim 23 in any subsequent Office Action.

Independent claim 24 recites “a search engine configured to: receive a search query that includes terms in a first language, locate documents in the first language that match the terms of the search query, and identify documents in a second language that contain references to the first language documents” and “a query translation engine configured to: determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the second language documents to identify one of the possible translations as a likely translation of the search query.”

POZNANSKI or CHAN, either singly or in combination, does not disclose, or even suggest, a search engine configured to locate documents in a first language that match terms of a search

query and identify documents in a second language that contain references to the first language documents and a query translation engine configured to use the second language documents to identify one of the possible translations as a likely translation of the search query, as recited in claim 24. Withdrawal of the rejection of claim 24 is, therefore, respectfully requested.

Applicants note that the Office Action rejects claim 24 “on similar grounds corresponding to the arguments given for the rejected claim 11.” Claim 24, however, recites substantially different features, than those recited in claim 14, which have not been addressed in the Office Action. Applicants respectfully request that the Examiner point out where POZNANSKI or CHAN allegedly disclose the various features of claim 24 in any subsequent Office Action.

In paragraph 6, the Office Action rejects claims 6-9, 16-19, 22 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over POZNANSKI and CHAN in view of LIDDY. Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to the rejection of claims 6-9, 16-19, 22 and 25 since the references cited by Office Action, either singly or in combination, do not teach or suggest each of the features recited in claims 6-9, 16-19, 22 and 25.

Claim 18 recites a “method for performing cross-language document retrieval” that comprises “receiving a search query that includes one or more terms in a first language,” “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language,” “determining possible translations of the terms of the search query into the second language,” “using the identified second language documents as

parallel corpora for disambiguation among the possible translations of the terms of the search query,” “identifying one of the possible translations as a correct translation of the search query based on the disambiguation,” and “performing a search of second language documents using the correct translation of the search query.”

In rejecting claim 18, the Office Action cites column 2, line 66 through column 3, line 15 and column 3, lines 29-50 of POZNANSKI as allegedly disclosing “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language.” The Office Action further cites column 4, lines 15-29 of CHAN as allegedly disclosing “disambiguation among the possible translations of the terms of the search query.” The Office Action additionally cites column 13, lines 4-17; abstract lines 1-6; column 3, line 55 through column 4, line 13; and column 15, line 64 through column 16, line 10 of LIDDY for allegedly disclosing “using the identified second language documents as parallel corpora.”

As discussed above with respect to claim 1, column 2, line 66 through column 3, line 15 and column 3, lines 29-50 of POZNANSKI merely disclose the location of documents in a second language that match terms of a search query converted from a first language into the second language. These sections of POZNANSKI do not disclose, or even suggest, searching documents *in a first language* to locate one or more of the documents that contain *anchor text* which identify one or more documents *in a second language* and which further match a search query *in the first language*, as recited in claim 18. As further discussed above with respect to claim 1, column 4, lines 15-19 of CHAN merely discloses the dialectal standardization of an

input search query to a more commonly known or used term. The disclosure of CHAN, therefore, does not disclose “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language” and, therefore, does not remedy the deficiencies in the disclosure of POZNANSKI noted above.

The Office Action admits (page 8) that POZNANSKI and CHAN do not disclose “using the identified second language documents as parallel corpora.” The Office Action, however, alleges that column 13, lines 4-17; abstract lines 1-6; column 3, line 55 through column 4, line 13; and column 15, line 64 through column 16, line 10 of LIDDY allegedly disclose this feature.

At column 13, lines 4-17, LIDDY discloses:

Global Knowledge simulates the observation made in human sense disambiguation that more frequently used senses of words are cognitively activated in preference to less frequently used senses of words. Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database. The database is an external, off-line sense-tagging of parallel corpora with the correct concept group code for each word. The disambiguated parallel corpora will provide frequencies of each word's usage as a particular sense (equatable to concept group) in the sample corpora. The most frequent sense is selected as the concept category.

This section of LIDDY, thus, discloses a “global knowledge” frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. The Office Action (pg. 8) cites LIDDY as allegedly disclosing the “using the identified second language documents as parallel corpora...” feature, but does not address the fact that the “identified second language documents” recited in

this feature are, as recited in the “performing a search of documents...” feature noted above, *documents in a second language that are identified from documents in a first language* that contain anchor text that match terms of a search query in a first language. LIDDY does not disclose that the “parallel corpora” contained in the global knowledge database include documents in a second language that are identified from documents in a first language that contain anchor text that match terms of a search query in a first language. Additionally, as already discussed above, POZNANSKI and CHAN also do not disclose this feature. This section of LIDDY, therefore, does not remedy the deficiencies in the disclosures of POZNANSKI and CHAN noted above.

At the abstract, lines 1-6, LIDDY discloses:

A document retrieval system where a user can enter a query, including a natural language query, in a desired one of a plurality of supported languages, and retrieve documents from a database that includes documents in at least one other language of the plurality of supported languages.

This section of LIDDY merely discloses that a user can enter a natural language search query in one language supported by the system and retrieve documents in another language from a database. This section of LIDDY does not disclose, or even suggest, “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language” or “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query,” as recited in claim 18 and, therefore, does not remedy the

deficiencies in the disclosures of POZNANSKI and CHAN noted above.

At column 3, line 55 through column 4, line 13, LIDDY discloses:

The present invention is embodied in a multilingual document retrieval system, 10, sometimes referred to as CINDOR (Conceptual INterlingua DOcument Retrieval). The CINDOR system is capable of accepting a user's query stated in any one of a plurality of supported languages while seamlessly searching, retrieving and relevance-ranking documents written in any of the supported languages. The system further offers a "gloss" transliteration of target documents, once retrieved, sufficient for a surface understanding of the document's contents.

Unless otherwise stated, the term "document" should be taken to mean text, a unit of which is selected for analysis, and to include an entire document, or any portion thereof, such as a title, an abstract, or one or more clauses, sentences, or paragraphs. A document will typically be a member of a document database, referred to as a corpus, containing a large number of documents. Such a corpus can contain documents in any or all of the plurality of supported languages.

Unless otherwise stated, the term "query" should be taken to mean text that is input for the purpose of selecting a subset of documents from a document database. While most queries entered by a user tend to be short compared to most documents stored in the database, this should not be assumed. The present invention is designed to allow natural language queries.

This section of LIDDY discloses the use of a search query in one of multiple supported languages to search, retrieve, and rank documents written in other ones of the supported multiple languages. This section of LIDDY does not disclose, or even suggest, "performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language" or "using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query," as recited in claim 18 and, therefore, does not remedy the deficiencies in the disclosures of POZNANSKI and CHAN noted above.

At column 15, line 64 through column 16, line 10, LIDDY discloses:

FIG. 5 shows a complete single French sentence as input, and shows the two-stage disambiguation explicitly. The native language sentence is shown being processed through the multilingual concept group generation process, to a monolingual conceptual representation with disambiguated concept codes. For simplicity, only the English language members of the multilingual concept groups are shown. In this example, the complete sentence has "anchor codes" (e.g., "comptant," which maps to code #105, with the English member "in cash") that can be used to help disambiguate other polysemous words in the sentence using Local or Domain processing. For example, the French "les paiements" maps to three codes, which are disambiguated at the MCGD to a Finance code).

This section of LIDDY discloses the processing of words in a first language to identify multilingual concept codes that may be used to translate the words in the first language to a second language. This section of LIDDY does not disclose, or even suggest, "performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and *identifies one or more documents in a second language*" (emphasis added) or "using the *identified second language documents* as parallel corpora for disambiguation among the possible translations of the terms of the search query" (emphasis added) as recited in claim 19 and, therefore, does not remedy the deficiencies in the disclosures of POZNANSKI and CHAN noted above.

Since POZNANSKI, CHAN, and LIDDY fail to disclose all of the features of claim 18, Applicants submit that the Office Action has failed to make out a *prima facie* case of obvious. Withdrawal of the rejection of claim 18 is, therefore, respectfully requested.

Claim 19 recites similar features to those discussed above with respect to claim 18.

Withdrawal of the rejection of claim 19 is, therefore, respectfully requested for at least the reasons set forth above with respect to claim 18.

Claim 22 recites a method that includes “receiving a search query that includes one or more terms in a first language;” “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and references one or more other documents in the first language;” “identifying documents in a second language that contain references to the one or more other first language documents;” “determining possible translations of the terms of the search query into the second language;” “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query;” “identifying one of the possible translations as a correct translation of the search query based on the disambiguation;” and “performing a search of second language documents using the correct translation of the search query.”

The Office Action (page 8) asserts that this claim has substantially the same features as claims 18 and 19, and rejects this claim on similar grounds. Claim 22, however, recites substantially different features than either claims 18 and 19, features that the Office Action has not addressed. Applicants submit that neither POZNANSKI, CHAN or LIDDY disclose or suggest the invention recited in claim 22. If the Examiner persists in maintaining this rejection, Applicants respectfully request that the Examiner particularly point out where each and every feature of claim 22 is disclosed in POZNANSKI, CHAN or LIDDY.

Independent claim 25 recites “receiving a search query that includes one or more terms in a first language,” “performing a search of documents in the first language to locate one or more of the first language documents that match the search query,” “identifying documents in a second language that contain references to the one or more first language documents,” “determining possible translations of the terms of the search query into the second language,” “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query,” “identifying one of the possible translations as a correct translation of the search query based on the disambiguation,” and “performing a search of second language documents using the correct translation of the search query.”

The Office Action (page 8) asserts that this claim has substantially the same features as claims 18 and 19, and rejects this claim on similar grounds. Claim 25, however, recites substantially different features than either claims 18 and 19, features that the Office Action has not addressed. Applicants submit that neither POZNANSKI, CHAN or LIDDY disclose or suggest the invention recited in claim 25. If the Examiner persists in maintaining this rejection, Applicants respectfully request that the Examiner particularly point out where each and every feature of claim 25 is disclosed in POZNANSKI, CHAN or LIDDY.

The Office Action (pg. 9) cites POZNANSKI, CHAN and LIDDY as allegedly disclosing the various features of dependent claims 6-9 and 16 and 17. Applicants submit, however, that the alleged disclosure of LIDDY does not remedy the deficiencies in the combination of POZNANSKI and CHAN noted above with respect to claims 1 and 15, from which claims 6-9 and 16 and 17 depend, respectively.

Furthermore, Applicants respectfully submit that claims 8 and 9 recite other features not disclosed or suggested by POZNANSKI, CHAN or LIDDY. For example, claim 8 recites “wherein the disambiguating among the possible translations includes: using text of the identified documents as parallel corpora, and using a parallel corpora disambiguation technique to differentiate among the possible translations of the terms of the search query.” As discussed above, neither POZNANSKI or CHAN discloses “locating documents in the first language that...identify documents in the second language” and “using the identified documents to identify one of the possible translations as a likely translation of the search query,” as recited in claim 1. LIDDY merely discloses the use of three sources of linguistic evidence (e.g., local context, domain knowledge, and global information) for disambiguating natural language search terms, none of which includes documents in a second language identified by documents in a first language. LIDDY does not suggest or disclose locating documents in a first language that identify documents in a second language and disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query, where the disambiguating among the possible translations includes using text of the identified documents as parallel corpora, as recited in claim 8.

The Office Action (page 8) cites column 13, lines 11-17 of LIDDY in support of the rejection of claim 8. This section of LIDDY includes the following:

Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database. The database is an external, off-line sense-tagging of parallel corpora with the correct

concept group code for each word. The disambiguated parallel corpora will provide frequencies of each word's usage as a particular sense (equatable to concept group) in the sample corpora. The most frequent sense is selected as the concept category.

This section of LIDDY merely discloses the use of a frequency database for selecting a particular concept group for a word of a natural language search query. This section does not disclose any of the features of claim 8 noted above. Therefore, since neither POZNANSKI, CHAN or LIDDY singly, or the references when considered in combination, disclose or suggest each and every feature of claim 8, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 8 is respectfully requested for at least this additional reason.

Claim 9 also recites additional features not suggested or disclosed by POZNANSKI, CHAN and LIDDY. Claim 9 recites "wherein disambiguating among the possible translations includes: determining a frequency of co-occurrence of the possible translations in the identified documents, and designating one of the possible translations with a highest frequency of co-occurrence as a correct translation." As discussed above, neither POZNANSKI or CHAN discloses "locating documents in the first language that...identify documents in the second language" and "using the identified documents to identify one of the possible translations as a likely translation of the search query," as recited in claim 1, from which claim 9 depends. LIDDY merely discloses a frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. LIDDY does not suggest or disclose locating documents in a first language that identify documents in a second language, determining a frequency of co-occurrence of the

possible translations in the identified documents, and designating one of the possible translations with a highest frequency of co-occurrence as a correct translation, as recited in claim 9.

The Office Action (page 8) cites column 6, lines 48-62 and column 13, lines 4-11 of LIDDY in support of the rejection of claim 9. At column 6, lines 48-62, LIDDY discloses:

Processing of documents and queries follows a modular progression, with documents being matched to queries based on matching (1) their conceptual-level contents, and (2) various term-based and logic representations such as the frequency/co-occurrence of proper nouns. At the conceptual level of matching, each substantive word in a document or query is assigned a concept category, and these category frequencies are summed to produce a vector representation of the whole text. Proper nouns are considered separately and, using a modified, fuzzy Boolean representation, matching occurs based on the frequency and co-occurrence of proper nouns in documents and queries. The principles applied to the proper noun matching are applicable to matching for other terms and parts of speech, such as complex nominals (CNs) and single terms.

This section of LIDDY merely discloses the matching of documents to search queries using the frequency/co-occurrence of proper nouns within the search terms of the search query. This section does not disclose any of the features of claim 9 noted above.

At column 13, lines 4-11, LIDDY discloses:

Global Knowledge simulates the observation made in human sense disambiguation that more frequently used senses of words are cognitively activated in preference to less frequently used senses of words. Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database.

This section of LIDDY merely discloses a "global knowledge" frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. This section, however, does not disclose any of the features of claim 9 noted above.

Therefore, since neither POZNANSKI, CHAN or LIDDY disclose each and every feature of claim 9, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 9 is respectfully requested for at least this additional reason.

A further requirement for establishing a *prima facie* case of obviousness is that there must be some reason, suggestion, or motivation to combine reference teachings. *In re Vaeck*, 947 F.2d 488, U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 2143. Applicants respectfully submit that the Office Action has not provided a sufficient reason, suggestion, or motivation for combining the teachings of POZNANSKI, CHAN and LIDDY.

With respect to claims 6-9, 16 and 17, Applicants submit that the Office Action (page 9) has not provided any reason, suggestion, or motivation, whatsoever, why a person of ordinary skill in the art would have modified the teachings of POZNANSKI and CHAN with the teachings of LIDDY to produce the invention recited in these claims. The Office Action fails to provide any type of motivational statement for combining POZNANSKI, CHAN and LIDDY with respect to claims 6-9, 16 and 17. Since the Office Action fails to provide a motivational statement with respect to these claims, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 6-9, 16 and 17. Withdrawal of the rejection of these claims is respectfully requested for at least this additional reason.

In view of the foregoing remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims. To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,



By: _____
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